

3/

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/804,446	KOLOSOV ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Rose M. Miller	2856	

-- **The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**  
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 25 September 2006.
2. ☒ The allowed claim(s) is/are 1-26.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date <u>9/25/06 &amp; 10/20/06</u></li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____.</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
|--|---|

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In claim 10, line 13; replace the phrase "(La.sub.3Ga.sub. 5SiO.su- b.14)"  
with --(La<sub>3</sub>Ga<sub>5</sub>SiO<sub>14</sub>) --.

2. Applicant's arguments, see Arguments/Remarks, filed 25 September 2006, with respect to claims 7, 8, and 10-26 have been fully considered and are persuasive. The 112/2<sup>nd</sup> paragraph rejection of claims 7, 8, and 10-26 has been withdrawn.

3. Applicant's arguments, see Arguments/Remarks, filed 25 September 2006, with respect to claims 1-26 have been fully considered and are persuasive. The 102/103 rejections of claims 1-26 have been withdrawn.

4. The following is an examiner's statement of reasons for allowance: The prior art of record fails to teach and/or suggest a fluid sensor employing a mechanical resonator, comprising: a resonator portion adapted for resonating in a fluid under test; and an electrical connection between the resonator portion and a source of an input signal, including at least one electrode that is at least partially covered by a dielectric material; wherein the resonator portion, the electrical connection or both includes a base material and a performance-tuning material that is different from the base material, is relatively hydrophobic, and exhibits a porosity of less than about 5% of its volume.

The prior art of record also fails to teach and/or suggest a fluid sensor employing a mechanical resonator, comprising: a resonator portion including at least two times adapted for resonating in a fluid under test; and an electrical connection including at least one electrode formed of a metal selected from gold, platinum, silver, chromium, aluminum, nickel, titanium or mixtures thereof between the resonator portion and a source of an input signal, wherein the resonator portion includes: a doped or undoped base material that exhibits a dielectric constant that is substantially constant over a temperature range from at least about 0 °C to about 100 °C,

Art Unit: 2856

and is selected from the group consisting of quartz, lithium niobate, zinc oxide, lead zirconate titanate (PZT), gallo-germanates, diomignite, bismuth germanium oxide, gallium phosphate, gallium nitride, aluminum nitride or combinations thereof; and a performance-tuning material that is relatively hydrophobic, exhibits a porosity of less than about 5% of its volume, is stable at about 150 °C, is different from the base material and is selected from the group consisting of polymers, ceramics, metals, metal carbides or nitrides, diamond, diamond-like carbon, and combinations thereof.

The prior art of record also fails to teach and/or suggest a method for making a resonator, comprising: a) forming a plurality of resonators on a common substrate; the resonators including: a resonator portion adapted for resonating in a fluid; and an electrical connection including at least one electrode formed of a metal selected from gold, platinum, silver, chromium, aluminum, nickel, titanium or mixtures thereof between the resonator portion and a source of an input signal, wherein the resonator portion includes: a doped or undoped base material that exhibits a dielectric constant that is substantially constant over a temperature range from at least about 0 °C to about 100 °C, and is selected from quartz, lithium niobate, zinc oxide, lead zirconate titanate, gallo-germanates, diomignite, bismuth germanium oxide, gallium phosphate, gallium nitride, aluminum nitride or combinations thereof; and a performance-tuning material that is different from the base material and is selected from the group consisting of polymers, ceramics, metals, metal carbides or nitrides, diamond, diamond-like carbon, and combinations thereof; and b) separating the resonators from each other.

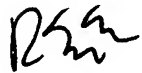
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rose M. Miller whose telephone number is 571-272-2199. The examiner can normally be reached on Monday - Friday, 7:30 am to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2856

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



RMM

10 December 2006



HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800